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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,129	10/02/2003	Shigeaki Murata	116783	6020
25944 7590 03/24/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
MAPLES, JOHN S				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
03/24/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/676,129

**Applicant(s)**

MURATA ET AL.

**Examiner**

John S. Maples

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 and 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 14 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10, 14, 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (New Rejection)

In claim 1, lines 11-12, applicant is claiming "by capturing the odorant in the mixed gas and a function of recovering its capturing capacity by decomposing the captured odorant". It appears that this language is redundant to the language set forth in lines 7-9 of claim 1 and thus the claim requires revision. If this language refers to additional elements in the odorant treatment portion, then further claim amendment is required.

Claim 2 is rejected to because this claim does not further limit claim 1 by the language therein.

Claims 3-10 and 18, dependent on claim 1, fall therewith.

In claim 14, lines 10-11, applicant is claiming "by capturing the odorant in the mixed gas and a function of recovering its capturing capacity by decomposing the captured odorant". It appears that this language is redundant to the language set forth in lines 5-7 of claim 14 and thus the claim requires revision. If this language refers to additional elements in the odorant treatment portion, then further claim amendment is required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6, 14, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-2002-029701 ('701) in view of both DE-10115220 ('220) and US-6,294,276. ('276) (New Rejection)

Reference is made to the English language abstract to '701 along with paragraph 32 in the machine translation of the same. These portions teach removing an odorant from a mixed gas that is fed to a fuel cell utilizing a deodorizer 28 including zinc oxide, which material desulfurizes and thus decomposes the odorant and provides a hydrogen pure gas stream. The only claimed features not taught by '701 are the carrier, the specific porous adsorbents and the particular catalyst. The '220 reference teaches a roll carrier 4 as seen in Figures 2 and 3 therein that holds zeolite or active carbon to remove sulfur from a hydrogen rich gas stream-see the search report submitted June 26, 2006. The '276 patent sets forth in column 11, lines 41-60 the use of palladium to

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purify hydrogen before the same is fed into a fuel cell. To have thus incorporated the roll structure including the zeolite or active carbon of '220 along with the palladium of '276 in the deodorizer of '701 would have been obvious to one of ordinary skill in this art at the time the invention was made so that the same would produce a hydrogen gas stream for a fuel cell of high purity that would not degrade the fuel cell.

Applicant's arguments have all been considered but are not deemed persuasive. Applicant argues that neither '220 nor '276 comprise a carrier with a porous adsorbent and a catalyst. This argument is deemed traversed by the discussion in the previous paragraph and the fact that Figures 2 and 3 of '220 depict a carrier for materials that deodorize the gas.

In response to applicant's further argument that '276 does not teach palladium as a catalyst, this patent meets the claimed limitation. Even though '276 does not mention that palladium is a catalyst, it functions as a catalyst even if the reference does not mention such. It would have been obvious to have combined the teachings of '276 and '220 to enhance the odorizer 28 of '701 because the same would improve the properties and further purify the mixed gas through the odorizer by the presence of the zeolite, carbon and palladium.

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Friday, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John S. Maples/

John S. Maples  
Primary Examiner  
Art Unit 1795

JSM/3-16-2008

**Application Number****Application/Control No.**

10/676,129

**Examiner**

John S. Maples

**Applicant(s)/Patent under  
Reexamination**

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